PHILIPS

Service Information

Advanced Automation Systems
Audio-communications
Broadcast Equipment
Electronic Security & Recording Systems
Industrial Automation
Scientific & Analytical Equipment
Test and Measurement

Industrial & Electro-acoustic Systems Division

880706 PM2525 SME137

Concerns :Additional modification chapter 11 for the service manual.
Already issued:---

As service documentation for the PM2525 should be used service manual 4822 872 35308 and this information sheet.

This service note is an additional chapter 11 for the service manual 4822 872 35308.

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4822 872 38321
PRINTED IN THE NETHERLANDS

11. MODIFICATIONS

11.1 OVERVIEW OF MODIFICATIONS IN CHRONOLOGICAL ORDER

The MODIFICATION NUMBER mentioned (▽x) points to the location on the p.c.board drawing and the place in the relevant circuit diagram.

The P.C.BOARD/VERSION NUMBER is related to the printed circuit board version a ,b ,c or the instrument version. At the end of this chapter an overview is given concerning p.c.boards versus serial numbers and instrument versions and an overview concerning software versions versus serial numbers and instrument versions.

MODIFICATION NUMBER	P.C.BOARD/ VERSION	DESCRIPTION	
▽1	a/b/c	Problem:	Inaccurate resistance measurements (MΩ ranges).
		Cause:	Too large leakage current through safety diodes V1550,V1551 (BYW56).
		Remedy:	Replace V15150 and V1551 by BAX18 ordering number 5322 130 34121
▽2	a/b/c/	Problem:	Inaccurate 100 MΩ range at 40°C room-temperature.
		Cause:	Too much leakage current through diodes V1553,V1554 (BAW62).
		Remedy:	Replace V15153 and V15154 by one transistor V1527 BC549C ordering number 4822 130 44246.
▽3	-----	Problem:	If on stand-up bracket, the instrument can easily be pushed.
		Cause:	Rubber feet do not touch the surface.
		Remedy:	New higher feet ordering number 5322 462 41278
▽4	a/b/c	Problem:	FM radio interference
		Cause:	Mains-cable of double isolated (/01) acts as an antenna.
		Remedy:	P.c.board a. ;Special mains cable with coils, inside the ordering number 5322 321 22837
			P.c.board b/c;Two coils mounted on the p.c.board (L700,L701) ordering number 5322 158 10052

5 a/b/c

Erratum: In the parts list the following components have to be modified;
Add R1507 MRS25 1% 100k 4822 116 52973
Modify R1503 to MRS25 1% 20k5
4822 116 53238
EPROM D1710 ordering number is incorrect it should be 5322 209 51444.

6 b

Improvement: To get a more acccurate 2000 uF range on p.c.board b the resistors
R1526 MRS25 1% 140k 5322 116 54259
R1527 MRS25 1% 249E 5322 116 53573
have been added.

7 b

Improvement: To leave out adjustment number 9 (2V) with adjusting resistor R4 on p.c.board b resistors
R1226 MRS25 1% 100E 5322 116 53126
R1227 MRS25 1% 332k 5322 116 53331
have been added.

8 a/b/c

Problem: Unstable zero.
Cause: Mechanical forces in the plastic ADC D1203 OQ0067 when soldered on the p.c.board.
Remedy: Ceramic OQ0067 ordering number 5322 209 81883 and the OQ0067 mounted on a IC-foot 24-p ordering number 5322 255 40248

9 a/b/c

Improvement: To improve stepper-motor running at 40°C diodes V1770/V1771 have been modified to BAW62 ordering number 4822 130 30316.

10 a/b/c

Improvement: To improve the 200mVdc zero C1201 has been modified to 33nF 100V 10% ordering number 5322 121 42489

11 a/b/c

Improvement: To improve the zero point the operational amplifier N1202 has been modified to a type LTC1057CN ordering number 5322 209 73385

12 /21

Problem: Too low secondary power for the battery p.c.board.
Cause: Too much voltage loss over rectifier diodes V401 to V404.
Remedy: Replace V401 to V404 by BYV10-40 ordering number 4822 130 32245

13 /21

Problem: Unstable display in function CONT.
Cause: Unstable +5V caused by transistor V422.
Remedy: Add diode V432 BAT85 ordering number 4822 130 31983 and capacitor C418 10nF 100V -20/+50% ordering number 4822 122 31414.
Cut a track.

14 a/b/c

Problem: Zero-point drift
Cause: Interal temperature transistor V1500 too far away from OQ302 D1203.
Remedy: Replace transistor V1500 by a BC559 (PNP) and place it close to the OQ302 (D1203). On p.c.board b this has already carried out in the p.c.board design.

15 b/c

Improvement: To suppress peaks on operational amplifier N1502, capacitor C1516 has been connected to zero instead of -8V, and C1517 100V 2% 100pF has been added.

16 a/b/c

Problem: Occasional 10 uA ranges out of tolerance.
Cause: Function selector not correct in position during factory calibration.
Remedy: -Recalibration of 10 uA range.
and/or
-New software version S07 and higher.
and/or
-Improvement of stepper motor cicuit.

The stepper motor circuit can only be checked via the interfaces (IEEE-488 or RS232C.
Proceed as follows;
1. Connect the PM2525 with interface to the controller .
2. Reset the PM2525. IMPORTANT!!!
3. Send command JCV459
Respond JCV00X,yyy,yyy,yyy,yyy
(=contents of RAM place 459,460,461,462,463)
If contents is >JCV001 <JCV 005 then no action, the motor circuit is correct.
If contents >JCV005 then modify R1721 to MRS25 1% 127k ordering number 5322 116 53601.

17 a/b/c

Erratum: Adjusment number 1 (page 5-5 of the PM2525 service manual) has been modified.

18 a/b

Problem: 2Aac 60Hz out of specification.
Occasionally Vac 60Hz out of specification.

Cause: Incorrect batch of OQ302 RMS convertor.

Remedy: Software version $\leq$ S07.
Modify; R1214 8M2 to
R1214 10M VR25 5% 4822 110 72214.
Check; function Vac Aac
If necessary repeat calibration cold nr. 35, 36, 37, 43, 44 and 45.

50 All versions

Software modifications, Refer to 11.4

11.2 SOFTWARE VERSIONS VERSUS SERIAL NUMBERS AND INSTRUMENT VERSIONS

The serial numbers are built-up as follws;

DY 0x yyyyy 0x=instrument version /01 /21 /51 /61 /71
yyyyyy=serial nmber

Version Software	/01	/013	/014	/21	/213	/214	/51
S02	00627	-----	-----	-----	-----	-----	-----
S03	00654	-----	-----	-----	-----	-----	-----
S04	00685	-----	00601	-----	00601	-----	00608
S05	-----	-----	-----	-----	-----	-----	-----
S06	01002	00601	00609	00601	00612	-----	00702
S07	01254	00654	00651	00611	00622	00601	00771
SOX							

	/513	/514	/515	/61	/614	/615	/71	/715
S02	-----	-----	-----	-----	-----	-----	-----	-----
S03	-----	-----	00601	-----	-----	-----	-----	-----
S04	00601	00601	00649	00601	-----	-----	-----	-----
S05	-----	-----	-----	-----	-----	-----	-----	-----
S06	00629	00637	00667	00602	-----	00601	00607	00601
S07	00633	00656	00673	00610	00602	00606	00614	00602
SOX								

11.3 P.C.BOARD VERSIONS VERSUS SERIAL NUMBERS AND INSTRUMENT VERSIONS

The serial numbers are built-up as follows;

DY 0x yyyyy 0x=instrument version /10 /21 /51 /61 /71
yyyyy=serial number

The p.c boards have the following versions;
a.=4022 325 8105.3 Refer to page 9-3 of the service manual.
b.=4022 325 8123.3 Refer to page 9-8 of the service manual.
c.= to be followed

The service manual mentioned has ordering number 4822 872 35308 PM2525

Versions / Boards	/01	/013	/014	/21	/213	/214	/51
a.	00601	-----	00601	00601	-----	00601	00608
b.	01002 to 01031, 01035, 01154	00601	-----	-----	00601	-----	-----
c.	to be followed						

	/513	/514	/515	/61	/614	/615	/71	/715
a.	00601	00601	00601	00601	00601	00601	00601	00601
b.	-----	-----	-----	-----	-----	-----	-----	-----
c.	to be followed							

11.4 SOFTWARE VERSION OVERVIEW 50

EPROM identification: Version numbers are written on the EPROM
2628.x x=software version S0x

The version numbers written on the EPROM are factory numbers. When ordering the servive ordering number must be used 5322 209 51444.
Concern servive always delivers the most up to date software version.

Version	Description
S02	Used in first instruments of /01 version.
S03	Factory changes concerning calibration IMPORTANT!!! For instruments to be updated from S02 to S03 resistor R1216 has to be modified to MRS25 1% 2k26 ordering number 5322 116 80649 Calibration Cold 11,12,13,14 and 23,24,25,26,27,28 have to be repeated. Refer to page 5-22 of the PM2525 service manual.
S04	Minor factory changes.
S05	Not used
S06	Modifications with respect to previous versions; -In function ZERO and overload OL gave a system hang-up via INTERFACE control. Remedy: Reset or S06. -3 digit error in freuency 10 kHz and time function after calibration solved. IMPORTANT !!! For instruments to be updated from S0x to S06 calibration COLD 1 MHz number 10 has to be repeated. Refer to page 5-22 of the PM2525 service manual.
S07	-Refer to service note SME136 concerning speed 3 in Vdc. -Refer to modification 16 -On printed circuit board c. (to be followed) a input filter is added in function Vdc to avoid ac components on the dc voltage to disturb the measurement at overload (series mode rejection).

5.3.1 Adjusting of 2 VPP *

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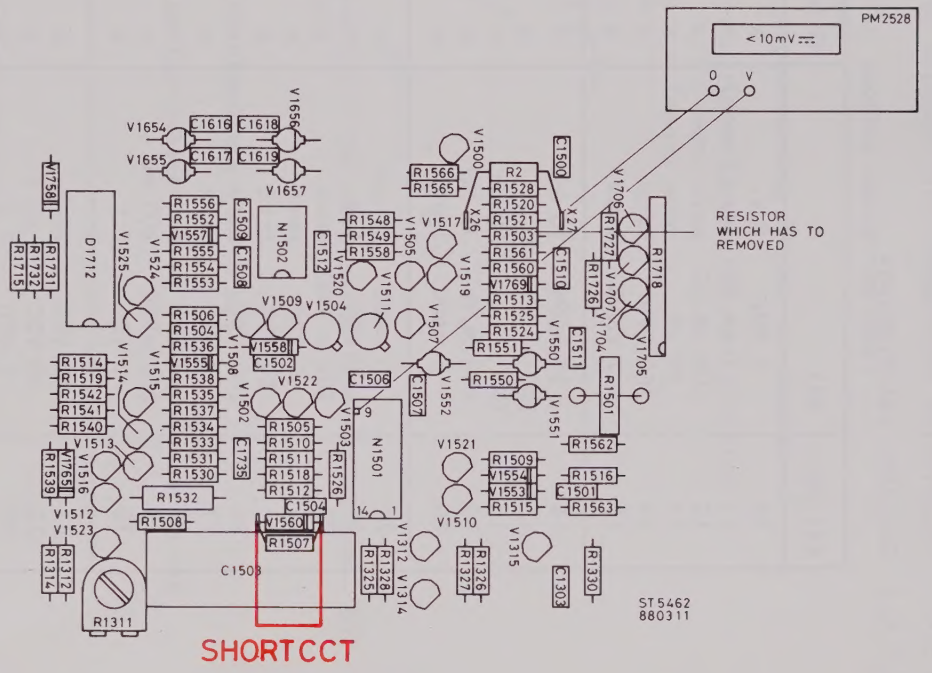
* Modified adjustment

No	ADJUSTMENT	ADJUSTING ELEMENT	PREPARATIONS	INPUT SIGNAL	MEASURING DATA	MEASURING POINT
1	VPP range 2V	R2 adjust resistor (MR25 1% E48 series) * R1503 removable resistor	Instrument set in position VPP. 2V. Use a PM2528.	Short cct input Short cct V1560 R1507	< 10 mV ⎓ ± 0.1%	HI = N1501/9 LO = X 27
			or Select range 2k	Short cct input		

- Adjusting elements mother P.C. board a.

U N1501/9-X27	R2	REMOVE
>= 9.9.....<12.1 mV	44k2	
>= 7.7.....< 9.9 mV	56k2	
>= 5.5.....< 7.7 mV	75k	
>= 3.3.....< 5.5 mV	115k	
>= 1.1.....< 3.3 mV	226k	
>=-1.1.....< 1.1 mV		
>=-3.3.....<-1.1 mV	24k9	R1503
>=-5.5.....<-3.3 mV	30k1	R1503
>=-7.7.....<-5.5 mV	33k2	R1503
>=-9.9.....<-7.7 mV	38k3	R1503
>=-12.1....<-9.9 mV	44k2	R1503

NOTE: When measuring and adjusting in an open instrument the diodes V1354, V1355, V1350, V1351 must be covered, to eliminate the influence of light.



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5.5.6 Calibration overviews

5.5.6.1 Cold/Hot calibrations

Adj.No	Adj		Cold	Hot
10	1 MHz	f.s.	x	-
11	1 uA DC	zero (open)	x	x
12	100 uA DC	zero (open)	x	x
13	20 nF	zero (open)	x	-
14	200 ΩFW	zero	x	x
15	2 kΩFW	1 kΩ	x	x
16	20 kΩFW	10 kΩ	x	x
17	TDC	0 Ω	x	x
18	TDC	100 Ω	x	x
19	200 MΩTW	30 MΩ	x	x
20	1 uADC	1 uA	x	x
21	10 uADC	10 uA	x	x
22	1 ADC	1 A	x	x
23	200 m VDC	zero	x	x
24	2 VDC	zero	x	x
25	20 VDC	zero	x	x
26	200 VDC	zero	x	x
27	2 VPU	zero	x	x
28	2 VPL	zero	x	x
29	200 mVDC	200 mV	x	x
30	2 VDC	2 V	x	x
31	20 VDC	20 V	x	x
32	20 VDC	-20 V	x	-
33	2 VPU	2 V	x	x
34	2 VPL	-2 V	x	x
35	200 mVAC	200 mV	x	-
36	2-VAC	2 V	x	x
37	20 VAC	20 V	x	-
38	200 kΩ	100 kΩ	x	x
39	2 MΩ	1 MΩ	x	x
40	20 MΩ	10 MΩ	x	x
41	1 mADC	1 mA	x	x
42	100 mADC	100 mA	x	x
43	1 mAAC	1 mA	x	x
44	200 VAC	200 V	x	-
45	2000 VAC	600 V	x	-
46	200 VDC	200 V	x	-
47	2000 VDC	1000 V	x	-

SØ2 ->SØ3
R1216 -> 2k26
Repeat cold:
11, 12, 12, 14,
23, 24, 25, 26,
27, 28

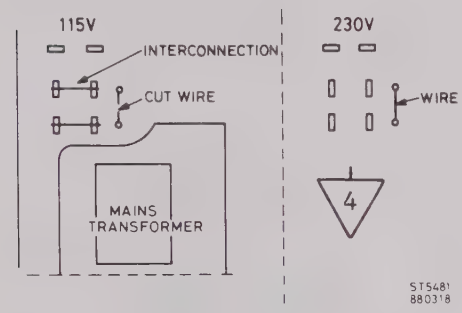
SØ4 -> SØ6
Repeat cold: 10

7.4 ADAPTION TO THE LOCAL MAINS VOLTAGE (115/230V)

The PM2525 can be altered to another mains voltage.
To alter proceed as follows:

- Remove the topcover and top screening (Refer to chapter 4)

Place jumpers and short-circuitwire in the correct position.



Remark: For both 115 V and 230 V the same mains fuse can be used. 630 mAT/250 V DIN 41571.

7.5 ADAPTION TO THE LOCAL MAINS FREQUENCY (50/60 Hz)

In the "CHECK" function the instrument can be adapted to the local mains frequency.

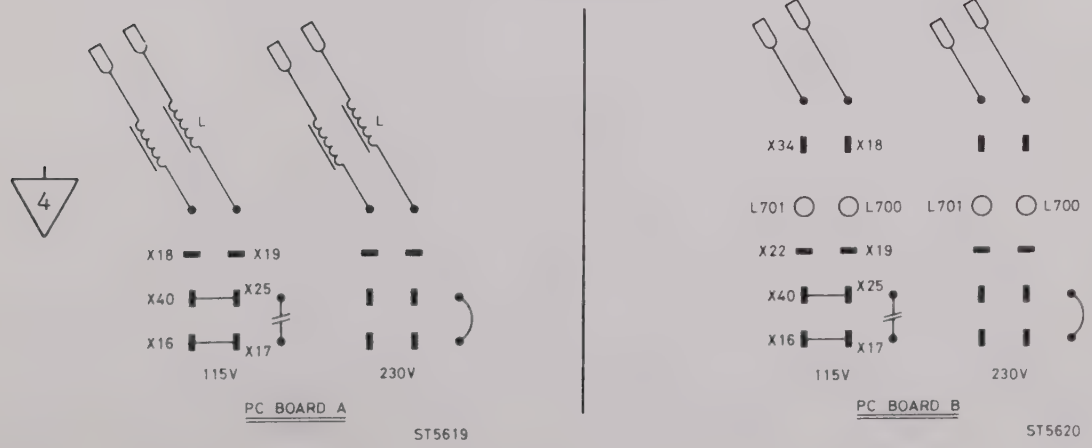
Proceed as follows:

50 Hz to 60 Hz

Press	SHIFT CHECK	1	ENTER
Display action	60 H0	60 H1	Measuring

60 Hz to 50 Hz

Press	SHIFT CHECK	0	ENTER
Display action	60 H1	60 H0	Measuring



3, 4, 8

8. PARTS LIST

8.1 MECHANICAL

(/01/21/51/61/71)	EUROPE
(/013/213/513/613/713)	USA
(/014/214/514/614/714)	United Kingdom
(/015/215/515/615/715)	Zwitzerland

	Fuse holder A-function	5322 256 34102
	Fuse holder A-function p.c. board part	5322 462 44478
	Fuse 630 mAT for A-function -mains	4822 253 30018
3	Display cable 7-pole	5322 321 22602
3	Foot (4x)	5322 462 41278
	Distance piece (1) plastic (4x)	5322 535 92416
	Window	5322 450 60633
	LCD interconnection rubber	5322 267 50753
	Liquid crystal display	5322 130 90454
	Rotor insulation	5322 466 91519
	Slide rotor assembly	5322 362 20226
	Rotor clip ring	5322 532 60932
	P.c. board ring	5322 532 51932
	Motor gear-wheel	5322 522 32384
	Gear wheel	5322 525 32463
	Motor	5322 361 21036
	IC socket 28 pins	5322 255 44047
8	IC socket 40 pins	5322 255 44217
8	IC socket 24 pins	5322 255 40248
	Thermal fuse for transformers	5322 252 20117 *
	Mains transformer	5322 242 71888 *
	Secondary transformer	5322 146 10241 *
4	Wiring with coil for mains entrance	5322 321 22837 *
4	Coil L700/701	5322 158 10052 *
	IEEE p.c. board	5322 218 61099
	Galvanic separation p.c. board	5322 218 61098
	Resonator 650 kHz	5322 242 71888
	Mains input socket	5322 265 20372

8.4 ELECTRICAL /01./51. N0300, N0600, N1000, N2200 (.=empty, 3, 4, 5)

N0300 = Galvanic separation
N0400 = Battery p.c. board
N0600 = IEEE-488 p.c. board
N1000 = Motherboard
N2200 = Display p.c. board
N11000 = RS232 p.c. board
N21000 = Analog output p.c. board

RA10	NETWORK 33K SPECIAL	5322 111 91617
D1201	OQ302	5322 209 11657
R1100	NETWORK OM551	5322 209 72563
D1710	ROM	5322 209 51444
D 1203	OQ0067A CERAMIC	5322 209 81883
C 0301	10V 20% 10UF	5322 124 21956
C 0303	-20+50% 10NF	4822 122 31414
C 0304	-20+50% 10NF	4822 122 31414
C 0307	-20+50% 10NF	4822 122 31414
C 0309	-20+50% 10NF	4822 122 31414
C 0310	25V 20% 1UF	5322 124 21959
C 0311	25V 20% 1UF	5322 124 21959
C 0312	10V 20% 10UF	5322 124 21956
C 0313	-20+20% 4700UF	5322 124 21504
C 0314	63V 10% 100NF	5322 121 42386
C 0320	20% 400V 1NF	5322 122 40364
C 0321	20% 400V 1NF	5322 122 40364
C 0322	-20+50% 10NF	4822 122 31414
C 0323	-20+50% 10NF	4822 122 31414
C 0324	-20+50% 10NF	4822 122 31414
C 0325	-20+50% 10NF	4822 122 31414
C 0601	6,3V 20% 22UF	4822 124 20943
C 0602	25V 20% 1UF	5322 124 21959
C 0603	6,3V 20% 22UF	4822 124 20943
C 0604	-20+50% 10NF	4822 122 31414
C 0605	-20+50% 10NF	4822 122 31414
C 0606	-20+50% 10NF	4822 122 31414
C 0607	6,3V 20% 22UF	4822 124 20943
C 0608	2% 33PF	5322 122 32072
C 0609	2% 33PF	5322 122 32072
C 1101	400V 10% 33NF	5322 121 44025

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POSNR	DESCRIPTION	ORDERING CODE
C 1102	630V 1% 110PF	5322 121 54058
C 1103	630V 1% 120PF	4822 121 50548
C 1104	2% 33PF	5322 122 32072
C 1105	F 160V	5322 125 50352
C 1106	0.25PF 3.9PF	5322 122 34107
C 1107	250V 1% 1NF	4822 121 50566
C 1108	300V	5322 125 50058
C 1109	2% 27PF	4822 122 30045
C 1110	63V 1% 11NF	5322 121 54147
C 1111	300V	5322 125 50058
C 1112	2% 27PF	4822 122 30045
C 1113	2% 56PF	4822 122 32027
C 1114	2% 120PF	4822 122 31348
C 1115	63V 10% 100NF	5322 121 42386
C 1116	-20+50% 10NF	4822 122 31414
C 1117	10% 470PF	4822 122 30034
C 1118	2% 56PF	4822 122 32027
C 1119	2% 220PF	5322 122 34047
C 1120	10% 4.7NF	4822 122 31125
C 1200	2% 220PF	5322 122 34047
C 1201	33nF 100V 10%	5322 121 42489
C 1202	2% 100PF	4822 122 31316
C 1203	63V 10% 470NF	5322 121 42467
C 1204	63V 10% 100NF	5322 121 42386
C 1205	2% 390PF	4822 122 32121
C 1206	2% 390PF	4822 122 32121
C 1207	63V 10% 47NF	5322 121 42604
C 1208	2% 47PF	4822 122 31072
C 1209	2% 33PF	5322 122 32072
C 1210	2% 10PF	4822 122 32185
C 1211	2% 33PF	5322 122 32072
C 1212	-20+50% 10NF	4822 122 31414
C 1213	-20+50% 10NF	4822 122 31414
C 1214	-20+50% 10NF	4822 122 31414
C 1215	63V 10% 470NF	5322 121 42467
C 1216	63V 10% 470NF	5322 121 42467
C 1217	-20+50% 10NF	4822 122 31414
C 1218	2% 100PF	4822 122 31316
C 1219	63V 10% 680NF	5322 121 42498
C 1220	63V 10% 680NF	5322 121 42498
C 1221	10% 1NF	4822 122 30027
C 1223	10% 1NF	4822 122 30027
C 1224	10% 1NF	4822 122 30027
C 1225	-20+50% 10NF	4822 122 31414
C 1226	-20+50% 10NF	4822 122 31414
C 1227	10% 2.2NF	4822 122 30114
C 1301	400V 10% 10NF	5322 121 41977
C 1302	-20+20% 1UF	5322 124 41098
C 1303	63V 10% 100NF	5322 121 42386
C 1304	2% 330PF	5322 122 32704
C 1305	-20+50% 10NF	4822 122 31414
C 1306	-20+20% 100UF	5322 124 41383
C 1401	10% 1NF	5322 122 32127
C 1402	-20+50% 10NF	4822 122 31414
C 1404	-20+20% 33UF	5322 124 41378
C 1405	-20+20% 33UF	5322 124 41378
C 1407	-20+20% 100UF	5322 124 41383
C 1408	-20+20% 33UF	5322 124 41378
C 1409	-20+50% 10NF	4822 122 31414
C 1410	-20+50% 10NF	4822 122 31414
C 1411	-20+50% 10NF	4822 122 31414
C 1500	-20+50% 10NF	4822 122 31414
C 1501	10% 1NF	5322 122 32127
C 1502	100V 10% 10NF	4822 121 41857

POSNR	DESCRIPTION	ORDERING CODE
C 1503	100V 5% 4.7UF	4822 121 41975
C 1504	10% 1NF	4822 122 30027
C 1505	63V 10% 1UF	5322 121 42114
C 1506	-20+50% 10NF	4822 122 31414
C 1507	-20+50% 10NF	4822 122 31414
C 1508	-20+50% 10NF	4822 122 31414
C 1509	-20+50% 10NF	4822 122 31414
C 1510	0.25PF 4.7PF	4822 122 31822
C 1511	2% 220PF	5322 122 34047
C 1512	2% 100PF	4822 122 31316
C 1513	-20+50% 10NF	4822 122 31414
C 1514	-20+50% 10NF	4822 122 31414
C 1516	100V 10% 1nF	4822 122 30027
C 1517	100V 2% 100pF	4822 122 31316
C 1602	-10+50% 330UF	4822 124 20705
C 1603	-20+50% 10NF	4822 122 31414
C 1604	-20+20% 1UF	5322 124 41098
C 1605	-10+50% 330UF	4822 124 20705
C 1606	-20+50% 10NF	4822 122 31414
C 1607	-20+20% 1UF	5322 124 41098
C 1609	-20+20% 10000UF	5322 124 22332
C 1611	-10+50% 470UF	4822 124 20695
C 1612	10% 1NF	4822 122 30027
C 1613	10% 1NF	4822 122 30027
C 1614	10% 1NF	4822 122 30027
C 1615	10% 1NF	4822 122 30027
C 1616	10% 1NF	4822 122 30027
C 1617	10% 1NF	4822 122 30027
C 1618	10% 1NF	4822 122 30027
C 1619	10% 1NF	4822 122 30027
C 1701	10V 20% 10UF	5322 124 21956
C 1702	10% 1NF	4822 122 30027
C 1703	-20+20% 10UF	5322 124 21731
C 1704	2% 33PF	5322 122 32072
C 1705	2% 33PF	5322 122 32072
C 1706	-20+20% 10UF	5322 124 21731
C 1707	-20+50% 10NF	4822 122 31414
C 1708	2% 100PF	4822 122 31316
C 1709	2% 100PF	4822 122 31316
C 1710	10% 1NF	4822 122 30027
C 1711	-20+50% 10NF	4822 122 31414
C 1712	-20+20% 1UF	5322 124 41098
C 1713	-20+20% 10UF	5322 124 21731
C 1714	-20+50% 10NF	4822 122 31414
C 1715	-20+50% 10NF	4822 122 31414
C 1717	-20+50% 10NF	4822 122 31414
C 1718	-20+50% 10NF	4822 122 31414
C 1719	-20+50% 10NF	4822 122 31414
C 1720	-20+50% 10NF	4822 122 31414
C 1721	-20+50% 10NF	4822 122 31414
C 1722	-20+50% 10NF	4822 122 31414
C 1723	-20+50% 10NF	4822 122 31414
C 1724	-20+50% 10NF	4822 122 31414
C 1725	-20+50% 10NF	4822 122 31414
C 1726	-20+50% 10NF	4822 122 31414
C 1727	-20+50% 10NF	4822 122 31414
C 1728	2% 47PF	4822 122 31072
C 1729	-20+50% 10NF	4822 122 31414
C 1730	-20+50% 10NF	4822 122 31414
C 1731	10% 1NF	4822 122 30027
C 1732	63V 10% 100NF	5322 121 42386
C 1733	-20+50% 10NF	4822 122 31414
C 1734	-20+50% 10NF	4822 122 31414
C 1735	-20+50% 10NF	4822 122 31414
C 2101	-20+80% 22NF	4822 122 30103
C 2102	-20+80% 22NF	4822 122 30103

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POSNR	DESCRIPTION		ORDERING CODE
D 0601	MAF8441PT008		5322 209 11131
D 0602	SN75161AN	T.I	5322 209 81842
D 0603	SN75160AN	T.I	5322 209 81807
D 0605	SN74LS02N	T.I	5322 209 85312
D 0606	SN74LS05N	T.I	5322 209 84994
D 1701	PC74HC132P	PEL	5322 209 11194
D 1703	PC74HC132P	PEL	5322 209 11194
D 1704	PC74HC86P	PEL	4822 209 11426
D 1705	PC74HC27P	PEL	5322 209 11333
D 1706	P8031AH	INT	5322 209 11128
D 1707	PC74HC165P	PEL	5322 209 11531
D 1709	PC74HC373P	PEL	5322 209 11366
D 1711	CDM6116AE2	RCA	5322 209 83103
D 1712	PC74HC4094P	PEL	5322 209 11532
D 1713	PC74HC4094P	PEL	5322 209 11532
D 1714	OQ0071		5322 209 81901
D 2101	PCF8576T	PEL	5322 209 11129
D 2201	PCF8574P	PEL	5322 209 10883
F 0001	T 5X20 630MA		4822 253 30018
F 0002	T 5X20 630MA		4822 253 30018
G 0601	6000,000KHZ		4822 242 70392
G 1701	UNIT 12000 KHZ		5322 242 71226
H 0301	CNX36	PEL	5322 130 90097
H 0302	CNX36	PEL	5322 130 90097
H 0303	CNX36	PEL	5322 130 90097
H 0304	CNX36	PEL	5322 130 90097
H 0305	CNX36	PEL	5322 130 90097
H 0306	CNX36	PEL	5322 130 90097
H 0307	CNX36	PEL	5322 130 90097
H 0308	CNX36	PEL	5322 130 90097
H 0309	CNX36	PEL	5322 130 90097
H 0310	CNX36	PEL	5322 130 90097
H 1701	PS20-01-0		5322 280 10148
K 1101	Reed Relay		5322 280 20346
K 1102	Reed Relay		5322 280 20346
K 1103	Reed Relay		5322 280 20346
L 1701	27UH		4822 158 10551
N 0301	LM393N	NSC	4822 209 80797
N 0302	LM393N	NSC	4822 209 80797
N 0303	LM393N	NSC	4822 209 80797
N 0321	UA7805UC	FSC	5322 209 84841
N 1202	LTC1057CN		5322 209 73385
N 1301	OP-07CZ	PMI	5322 209 83268
N 1501	LF444CN	NSC	5322 209 71975
N 1502	LM311N	NSC	5322 209 85503
N 1601	LM78L05ACZ	N.S	5322 209 80903
N 1602	LM79L05ACZ	NSC	5322 209 86434
N 1603	LM358N	N.S	4822 209 70672
R 0301	MRS25 1% 2K49		5322 116 53574
R 0302	MRS25 1% 3K65		5322 116 53245
R 0303	MRS25 1% 3K65		5322 116 53245
R 0304	MRS25 1% 3K65		5322 116 53245
R 0305	MRS25 1% 2K49		5322 116 53574
R 0307	MRS25 1% 8K25		5322 116 53267
R 0308	MRS25 1% 287E		5322 116 53221
R 0309	MRS25 1% 100E		5322 116 53126
R 0310	MRS25 1% 287E		5322 116 53221
R 0311	MRS25 1% 100E		5322 116 53126
R 0312	MRS25 1% 8K25		5322 116 53267

POSNR	DESCRIPTION		ORDERING CODE
R 0314	MRS25	1% 2K49	5322 116 53574
R 0315	MRS25	1% 3K65	5322 116 53245
R 0316	MRS25	1% 3K65	5322 116 53245
R 0317	MRS25	1% 2K49	5322 116 53574
R 0318	MRS25	1% 3K65	5322 116 53245
R 0319	MRS25	1% 2K49	5322 116 53574
R 0320	MRS25	1% 3K65	5322 116 53245
R 0321	MRS25	1% 3K65	5322 116 53245
R 0322	MRS25	1% 3K65	5322 116 53245
R 0323	MRS25	1% 2K49	5322 116 53574
R 0325	MRS25	1% 8K25	5322 116 53267
R 0326	MRS25	1% 287E	5322 116 53221
R 0327	MRS25	1% 100E	5322 116 53126
R 0329	MRS25	1% 8K25	5322 116 53267
R 0330	MRS25	1% 287E	5322 116 53221
R 0331	MRS25	1% 100E	5322 116 53126
R 0332	MRS25	1% 2K49	5322 116 53574
R 0333	MRS25	1% 3K65	5322 116 53245
R 0334	MRS25	1% 3K65	5322 116 53245
R 0335	MRS25	1% 2K49	5322 116 53574
R 0336	MRS25	1% 3K65	5322 116 53245
R 0337	MRS25	1% 681E	4822 116 53123
R 0338	MRS25	1% 121K	4822 116 52958
R 0339	MRS25	1% 3K48	4822 116 53315
R 0340	MRS25	1% 10K	4822 116 53022
R 0341	MRS25	1% 10K	4822 116 53022
R 0342	MRS25	1% 100E	5322 116 53126
R 0343	MRS25	1% 14E7	4822 116 53037
R 0344	MRS25	1% 10K	4822 116 53022
R 0345	MRS25	1% 10K	4822 116 53022
R 0346	MRS25	1% 10K	4822 116 53022
R 0347	MRS25	1% 10K	4822 116 53022
R 0348	MRS25	1% 8K25	5322 116 53267
R 0349	MRS25	1% 8K25	5322 116 53267
R 0350	MRS25	1% 8K25	5322 116 53267
R 0351	MRS25	1% 8K25	5322 116 53267
R 0352	MRS25	1% 287E	5322 116 53221
R 0353	MRS25	1% 100E	5322 116 53126
R 0354	MRS25	1% 2K87	5322 116 53513
R 0355	MRS25	1% 287E	5322 116 53221
R 0356	MRS25	1% 100E	5322 116 53126
R 0357	MRS25	1% 2K87	5322 116 53513
R 0358	MRS25	1% 287E	5322 116 53221
R 0359	MRS25	1% 100E	5322 116 53126
R 0360	MRS25	1% 2K87	5322 116 53513
R 0361	MRS25	1% 287E	5322 116 53221
R 0362	MRS25	1% 100E	5322 116 53126
R 0363	MRS25	1% 2K87	5322 116 53513
R 0364	MRS25	1% 100E	5322 116 53126
R 0365	MRS25	1% 249E	5322 116 53573
R 0366	MRS25	1% 301K	5322 116 53328
R 0601	MRS25	1% 10K	4822 116 53022
R 0602	MRS25	1% 100E	5322 116 53126
R 0603	MRS25	1% 100E	5322 116 53126
R 0604	MRS25	1% 10K	4822 116 53022
R 0605	MRS25	1% 100K	4822 116 52973
R 0606	MRS25	1% 1M	4822 116 52843
R 0607	MRS25	1% 2K74	4822 116 53055
R 0608	MRS25	1% 4K64	5322 116 53212
R 0609	MRS25	1% 8K66	5322 116 53625
R 0610	MRS25	1% 10K	4822 116 53022
R 0612	MRS25	1% 10K	4822 116 53022
R 1101	**MRS25**	**1% 1k**	**4822 116 53108**
R 1102	**MRS25**	**1% 24E9**	**5322 116 53608**
R 1103	**MRS25**	**1% 61k9**	**5322 116 53223**
R 1201	VR25	5% 5M6	4822 110 72207
R 1202	MRS25	1% 590K	5322 116 53336
R 1203	MRS25	1% 90K9	5322 116 53582

POSNR	DESCRIPTION	ORDERING CODE
R 1204	MRS25 1% 10K	4822 116 53022
R 1205	MRS25 1% 100K	4822 116 52973
R 1206	MRS25 1% 100K	4822 116 52973
R 1207	MRS25 1% 100K	4822 116 52973
R 1208	MRS25 1% 178K	5322 116 53555
R 1209	MRS25 1% 36K5	5322 116 53557
R 1210	MRS25 1% 1M	4822 116 52843
R 1211	MRS25 1% 1M	4822 116 52843
R 1212	0.1% 8K76	5322 116 52117
R 1213	MRS25 1% 1K15	5322 116 80101
R 1214	VR25 1% 10M	4822 116 72214
R 1214	VR25 5% 8M2	4822 110 72212
R 1215	MRS25 1% 30E1	5322 116 53638
R 1217	1/4W 0.1% 17K8	5322 116 52387
R 1218	MRS25 1% 10K	4822 116 53022
R 1219	MRS25 1% 5K11	5322 116 53494
R 1220	MRS25 1% 1M	4822 116 52843
R 1221	MRS25 1% 100E	5322 116 53126
R 1222	MRS25 1% 4K87	5322 116 53333
R 1223	MRS25 1% 20E5	5322 116 53635
R 1224	MRS25 1% 20E5	5322 116 53635
R 1226	MRS25 1% 100E	5322 116 53126
R 1227	MRS25 1% 332k	5322 116 53331
R 1300	MRS25 1% 100E	5322 116 53126
R 1301	245V 750E-1K5	5322 116 44006
R 1302	MRS25 1% 100K	4822 116 52973
R 1303	MRS25 1% 750E	5322 116 53265
R 1304	MRS25 1% 10K	4822 116 53022
R 1305	MRS25 1% 1K	4822 116 53108
R 1306	MRS25 1% 1K	4822 116 53108
R 1307	MRS25 1% 6E19	5322 116 80148
R 1308	265V 20% 100E	4822 116 40006
R 1309	MRS25 1% 100K	4822 116 52973
R 1310	MRS25 1% 100K	4822 116 52973
R 1311	MTP10 20% 100K	5322 101 10508
R 1312	VR25 5% 10M	4822 110 72214
R 1313	MRS25 1% 1M	4822 116 52843
R 1314	MRS25 1% 12K1	4822 116 52957
R 1315	MRS25 1% 40K2	5322 116 53613
R 1316	MTP10 20% 100K	5322 101 10508
R 1317	VR25 5% 10M	4822 110 72214
R 1318	MRS25 1% 383E	5322 116 53332
R 1319	MRS25 1% 59K	4822 116 80036
R 1320	MRS25 1% 46K4	5322 116 53314
R 1321	MRS25 1% 464K	5322 116 53247
R 1322	MRS25 1% 46K4	5322 116 53314
R 1323	MRS25 1% 10K	4822 116 53022
R 1324	MRS25 1% 90K9	5322 116 53582
R 1325	MRS25 1% 1M	4822 116 52843
R 1326	MRS25 1% 51K1	4822 116 53121
R 1327	MRS25 1% 1K	4822 116 53108
R 1328	MRS25 1% 1M	4822 116 52843
R 1329	MRS25 1% 100K	4822 116 52973
R 1330	MRS25 1% 1M	4822 116 52843
R 1331	1W 20% 50E	4822 116 30008
R 1332	MRS25 1% 40K2	5322 116 53613
R 1333	MRS25 1% 40K2	5322 116 53613
R 1336	MRS25 1% 100K	4822 116 52973
R 1401	VR25 5% 10M	4822 110 72214
R 1402	MRS25 1% 100K	4822 116 52973
R 1403	MRS25 1% 226E	5322 116 53242
R 1404	MRS25 1% 100K	4822 116 52973
R 1405	MRS25 1% 2K26	5322 116 53243
R 1407	MRS25 1% 1K	4822 116 53108
R 1409	MRS25 1% 3K01	5322 116 53255
R 1410	MRS25 1% 7K5	4822 116 53028
R 1411	MRS25 1% 15K4	5322 116 53234
R 1412	MRS25 1% 365E	5322 116 53575

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POSNR	DESCRIPTION	ORDERING CODE
R 1413	MRS25 1% 487E	5322 116 53642
R 1414	MRS25 1% 10E	4822 116 52891
R 1416	MRS25 1% 348E	5322 116 53591
R 1417	MRS25 1% 140E	5322 116 53542
R 1418	MRS25 1% 1K1	5322 116 53473
R 1419	MRS25 1% 2K61	5322 116 53327
R 1420	MRS25 1% 402E	5322 116 53639
R 1421	MRS25 1% 402E	5322 116 53639
R 1422	MRS25 1% 10E	4822 116 52891
R 1424	MRS25 1% 127E	5322 116 53631
R 1425	MRS25 1% 10E	4822 116 52891
R 1426	MRS25 1% 909E	4822 116 53533
R 1427	MRS25 1% 100E	5322 116 53126
R 1428	MRS25 1% 10K	4822 116 53022
R 1429	MRS25 1% 10K	4822 116 53022
R 1430	MRS25 1% 10K	4822 116 53022
R 1431	MRS25 1% 10K	4822 116 53022
R 1432	MRS25 1% 100K	4822 116 52973
R 1433	MRS25 1% 10K	4822 116 53022
R 1434	MRS25 1% 100K	4822 116 52973
R 1501	265V 20% 100E	4822 116 40006
R 1502	MRS25 1% 162K	5322 116 53535
5 R 1503	MRS25 1% 20k5	4822 116 53238
R 1504	MRS25 1% 1M	4822 116 52843
R 1505	MRS25 1% 46K4	5322 116 53314
R 1506	MRS25 1% 100K	4822 116 52973
5 R 1507	MRS25 1% 100k	4822 116 52973
R 1508	MRS25 1% 1K	4822 116 53108
R 1509	MRS25 1% 511E	5322 116 53135
R 1510	MRS25 1% 649K	5322 116 55331
R 1511	MRS25 1% 100K	4822 116 52973
R 1512	MRS25 1% 1K	4822 116 53108
R 1513	MRS25 1% 100K	4822 116 52973
R 1514	MRS25 1% 10K	4822 116 53022
R 1515	MRS25 1% 1K	4822 116 53108
R 1516	MRS25 1% 100K	4822 116 52973
R 1518	MRS25 1% 1K	4822 116 53108
R 1519	MRS25 1% 10K	4822 116 53022
R 1520	MRS25 1% 100K	4822 116 52973
R 1521	1/4W 0.1% 1K02	5322 116 80221
R 1522	VR25 5% 1M2	4822 110 72189
R 1523	MRS25 1% 1M	4822 116 52843
R 1524	MRS25 1% 100K	4822 116 52973
R 1525	MRS25 1% 100K	4822 116 52973
6 R 1526	MRS25 1% 140k	5322 116 54259
R 1527	MRS25 1% 249E	5322 116 53573
R 1528	MRS25 1% 100K	4822 116 52973
R 1530	MRS25 1% 1K62	5322 116 53257
R 1531	MRS25 1% 162K	5322 116 53535
R 1532	VR37 5% 16M	5322 116 64021
R 1533	MRS25 1% 249K	5322 116 80295
R 1534	MRS25 1% 19K6	5322 116 53258
R 1535	MRS25 1% 10K	4822 116 53022
R 1536	MRS25 1% 3K01	5322 116 53255
R 1537	MRS25 1% 169K	5322 116 53345
R 1538	MRS25 1% 30K1	5322 116 53209
R 1539	MRS25 1% 3K83	4822 116 53079
R 1540	MRS25 1% 10K	4822 116 53022
R 1541	MRS25 1% 10K	4822 116 53022
R 1542	MRS25 1% 10K	4822 116 53022
R 1548	MRS25 1% 365K	5322 116 80338
R 1549	MRS25 1% 100K	4822 116 52973
R 1550	0.1% 174K	5322 116 51891
R 1551	0.1% 174K	5322 116 51891
R 1552	MRS25 1% 5K62	5322 116 53495
R 1553	MRS25 1% 1K	4822 116 53108

POSNR	DESCRIPTION		ORDERING CODE
V 0331	BSX20	PEL	4822 130 41705
V 0332	BSX20	PEL	4822 130 41705
V 0333	BSX20	PEL	4822 130 41705
V 0334	BC547B	PEL	4822 130 40959
V 0606	BAT85	PEL	4822 130 31983
V 1201	BF256A	PEL	5322 130 44418
V 1202	BF256A	PEL	5322 130 44418
V 1203	BF256A	PEL	5322 130 44418
V 1204	BF256A	PEL	5322 130 44418
V 1205	BF256A	PEL	5322 130 44418
V 1206	BF256A	PEL	5322 130 44418
V 1207	BSV80	PEL	5322 130 34044
V 1303	BC549C	PEL	4822 130 44246
V 1304	BC559B	PEL	4822 130 44358
V 1305	BC559B	PEL	4822 130 44358
V 1306	BF256B	PEL	5322 130 44744
V 1307	BF256B	PEL	5322 130 44744
V 1308	BC559B	PEL	4822 130 44358
V 1309	BC549C	PEL	4822 130 44246
V 1310	BC549C	PEL	4822 130 44246
V 1311	BC549C	PEL	4822 130 44246
V 1312	BC559B	PEL	4822 130 44358
V 1313	BC559B	PEL	4822 130 44358
V 1314	BC549C	PEL	4822 130 44246
V 1315	BF256A	PEL	5322 130 44418
V 1350	BZT03-C7V5	PEL	4822 130 31913
V 1351	BZT03-C7V5	PEL	4822 130 31913
V 1352	BZT03-C7V5	PEL	4822 130 31913
V 1353	BZT03-C7V5	PEL	4822 130 31913
V 1354	BYW56	PEL	5322 130 34973
V 1355	BYW56	PEL	5322 130 34973
V 1356	BAT85	PEL	4822 130 31983
V 1357	BAT85	PEL	4822 130 31983
V 1401	BF256B	PEL	5322 130 44744
V 1403	BF199	PEL	4822 130 44154
V 1404	BF199	PEL	4822 130 44154
V 1405	BF324	PEL	4822 130 41448
V 1406	BF324	PEL	4822 130 41448
V 1407	BF324	PEL	4822 130 41448
V 1408	BC547B	PEL	4822 130 40959
V 1410	BSX20	PEL	4822 130 41705
V 1411	BC549C	PEL	4822 130 44246
V 1412	BC559B	PEL	4822 130 44358
V 1450	BAT85	PEL	4822 130 31983
V 1451	BAT85	PEL	4822 130 31983
V 1452	BAT85	PEL	4822 130 31983
V 1453	BAT85	PEL	4822 130 31983
V 1500	BC559	PEL	4822 130 44358
V 1502	BF256A	PEL	5322 130 44418
V 1503	BF256A	PEL	5322 130 44418
V 1504	BSV80	PEL	5322 130 34044
V 1505	BF256A	PEL	5322 130 44418
V 1506	BF256A	PEL	5322 130 44418
V 1507	BF256A	PEL	5322 130 44418
V 1508	BF256A	PEL	5322 130 44418
V 1509	BF256A	PEL	5322 130 44418
V 1510	BF256A	PEL	5322 130 44418
V 1511	BSV80	PEL	5322 130 34044
V 1512	BC337	PEL	4822 130 40855
V 1513	BC549C	PEL	4822 130 44246
V 1514	BC549C	PEL	4822 130 44246
V 1515	BC549C	PEL	4822 130 44246
V 1516	BC549C	PEL	4822 130 44246
V 1517	BF256A	PEL	5322 130 44418
V 1518	BF256A	PEL	5322 130 44418

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POSNR	DESCRIPTION		ORDERING CODE
V 1519	BF256A	PEL	5322 130 44418
V 1520	BF256A	PEL	5322 130 44418
V 1521	BF256A	PEL	5322 130 44418
V 1522	BC549C	PEL	4822 130 44246
V 1523	BF256A	PEL	5322 130 44418
V 1524	BF256A	PEL	5322 130 44418
V 1525	BC549C	PEL	4822 130 44246
V 1526	BF256A	PEL	5322 130 44418
V 1527	BC549C	PEL	4822 130 44246
V 1550	BAX18	PEL	4822 130 34121
V 1551	BAX18	PEL	4822 130 34121
V 1552	BZT03-C7V5	PEL	4822 130 31913
V 1553	BAW62	PEL	4822 130 30613
V 1554	BAW62	PEL	4822 130 30613
V 1555	BZV12	PEL	5322 130 34269
V 1558	BAT85	PEL	4822 130 31983
V 1560	BAW62	PEL	4822 130 30613
V 1601	BC549C	PEL	4822 130 44246
V 1602	BD139	PEL	4822 130 40823
V 1650	BYW56	PEL	5322 130 34973
V 1651	BYW56	PEL	5322 130 34973
V 1652	BYW56	PEL	5322 130 34973
V 1653	BYW56	PEL	5322 130 34973
V 1654	BYW56	PEL	5322 130 34973
V 1655	BYW56	PEL	5322 130 34973
V 1656	BYW56	PEL	5322 130 34973
V 1657	BYW56	PEL	5322 130 34973
V 1658	BZX79-B3V3	PEL	5322 130 31504
V 1659	BZX79-B3V3	PEL	5322 130 31504
V 1660	BZX79-B3V3	PEL	5322 130 31504
V 1661	BZX79-B3V3	PEL	5322 130 31504
V 1662	BAW62	PEL	4822 130 30613
V 1663	BAT85	PEL	4822 130 31983
V 1664	BAT85	PEL	4822 130 31983
V 1665	BAX18	PEL	4822 130 34121
V 1666	BZX79-B3V3	PEL	5322 130 31504
V 1667	BAW62	PEL	4822 130 30613
V 1701	BC549C	PEL	4822 130 44246
V 1702	BC559B	PEL	4822 130 44358
V 1703	BC549C	PEL	4822 130 44246
V 1704	BC327	PEL	4822 130 40854
V 1705	BC337	PEL	4822 130 40855
V 1706	BC327	PEL	4822 130 40854
V 1707	BC337	PEL	4822 130 40855
V 1708	BC327	PEL	4822 130 40854
V 1709	BC549C	PEL	4822 130 44246
V 1710	BC549C	PEL	4822 130 44246
V 1711	BC549C	PEL	4822 130 44246
V 1712	BC549C	PEL	4822 130 44246
V 1713	BC549C	PEL	4822 130 44246
V 1714	BC549C	PEL	4822 130 44246
V 1715	BC549C	PEL	4822 130 44246
V 1717	BC549C	PEL	4822 130 44246
V 1718	BC549C	PEL	4822 130 44246
V 1719	BC559B	PEL	4822 130 44358
V 1720	BC327	PEL	4822 130 40854
V 1721	BC559B	PEL	4822 130 44358
V 1722	BC549C	PEL	4822 130 44246
V 1723	BC549C	PEL	4822 130 44246
V 1724	BC549C	PEL	4822 130 44246
V 1750	BRY39	PEL	5322 130 40482
V 1751	BAT85	PEL	4822 130 31983
V 1752	BAT85	PEL	4822 130 31983
V 1753	BAT85	PEL	4822 130 31983
V 1756	BAT85	PEL	4822 130 31983
V 1757	BAW62	PEL	4822 130 30613

POSNR	DESCRIPTION		ORDERING CODE
V 1757	BAT85	PEL	4822 130 31983
V 1758	BAT85	PEL	4822 130 31983
V 1759	BAT85	PEL	4822 130 31983
V 1760	BAW62	PEL	4822 130 30613
V 1761	BAW62	PEL	4822 130 30613
V 1762	BAW62	PEL	4822 130 30613
V 1763	BAW62	PEL	4822 130 30613
V 1764	BAT85	PEL	4822 130 31983
V 1765	BZV46-C1V5	PEL	5322 130 34865
V 1766	BZV46-C2V0	PEL	4822 130 31248
V 1767	BAW62	PEL	4822 130 30613
V 1768	BZV46-C1V5	PEL	5322 130 34865
V 1769	BAT85	PEL	4822 130 31983
V 1770	BAW62	PEL	4822 130 30613
V 1771	BAW62	PEL	4822 130 30613
V 2101	BZV46-C1V5	PEL	5322 130 34865
V 2102	BC547B	PEL	4822 130 40959
X 0301	10-P DBL STRGHT		5322 265 40485
X 0302	10-P DBL STRGHT		5322 265 40485
X 0601	24P SQR IEEE		5322 267 60162
X 0602	10-P DBL STRGHT		5322 265 40485
X 1001	8-P PW HAAKS		5322 267 54107
X 1601	10-P DBL STRGHT		5322 265 40485
X 1701	7-P SNG STRGHT		5322 265 40668
X 2101	G STRGHT		5322 267 50748

8.5 PARTS LIST RS232 INTERFACE N11000

* * * * S E R V I C E - P A R T S L I S T F O R 9447 025 25611

SERVICECODE	FP FR	DESCRIPTION	ART.SPECIFIC. R C M D S PER MAG UN HIG CUS GEN	POS.NR	00
5322 693 21929	12 000	UNIT,ELECTRICAL V24 INTERFACE A9190	0 0 0 0 0 000 0 13 0 0		1
5322 209 51448	12 000	I.C. ROM ROM 9190	0 0 0 0 0 000 0 13 0 0	A2 .	1
5322 209 72599	12 000	INTEGR.CIRCUIT DUART	0 0 0 0 0 000 0 13 0 0	D11002	1
5322 218 61098	12 000	BOARD,PRINTED GALVANIC PRINT	0 0 0 0 0 000 0 13 0 0	A300 .	1
5322 321 21585	12 000	CABLE,CONNECT. CABLE ASSY	0 0 0 0 0 000 0 13 0 0		1
4822 122 31414	13 000	CAP.CERAMIC CAP 100V -20+50 10NF	0 0 0 000 0 13 0 1	C11001	1
5322 124 21959	12 000	CAP.ELECTROLYT. ALCAP 25V 20 1UF	0 0 0 000 0 13 0 1	C11002	1
4822 124 20943	13 000	CAP.SOLID ALU. ALCAP 6,3V 20 22UF	0 0 0 000 0 13 0 1	C11005	1
4822 122 31414	13 000	CAP.CERAMIC CAP 100V -20+50 10NF	0 0 0 000 0 13 0 1	C11007	1
5322 124 10665	13 000	CAP.HI-TENSION ALCAP 10V 20 15UF	0 0 0 000 0 13 0 1	C11008	1
5322 124 10665	13 000	CAP.HI-TENSION ALCAP 10V 20 15UF	0 0 0 000 0 13 0 1	C11009	1
5322 124 10665	13 000	CAP.HI-TENSION ALCAP 10V 20 15UF	0 0 0 000 0 13 0 1	C11010	1
5322 124 10665	13 000	CAP.HI-TENSION ALCAP 10V 20 15UF	0 0 0 000 0 13 0 1	C11011	1
5322 124 10665	13 000	CAP.HI-TENSION ALCAP 10V 20 15UF	0 0 0 000 0 13 0 1	C11012	1
5322 124 10665	13 000	CAP.HI-TENSION ALCAP 10V 20 15UF	0 0 0 000 0 13 0 1	C11013	1
4822 122 31414	13 000	CAP.CERAMIC CAP 100V -20+50 10NF	0 0 0 000 0 13 0 1	C11014	1
4822 122 31414	13 000	CAP.CERAMIC CAP 100V -20+50 10NF	0 0 0 000 0 13 0 1	C11015	1
4822 122 31414	13 000	CAP.CERAMIC CAP 100V -20+50 10NF	0 0 0 000 0 13 0 1	C11016	1

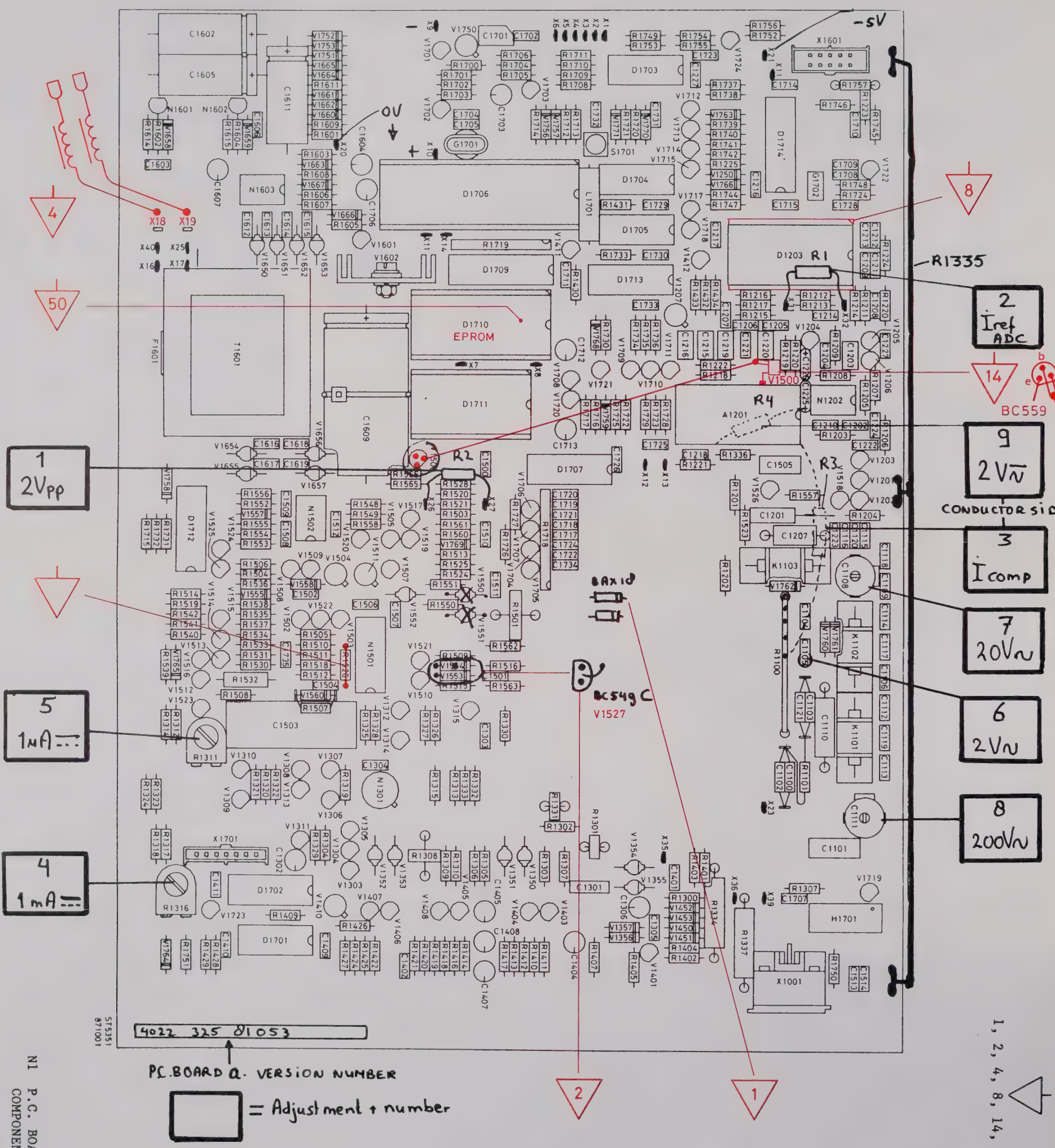
8.7 PARTS LIST BATTERY P.C. BOARD

SERVICECODE	FP	FR	DESCRIPTION	ART.SPECIFIC. R C M D S PER MAG UN HIG CUS	GEN	POS.NR	00
4822 253 30021	13	000	FUSE T 5X20 1A	0 0 0 0 0 000 0 13 0	1	F 0002	1
5322 277 10974	12	000	SWITCH,TUMBLER	0 0 0 0 0 000 0 13 0	0	S 0401	1
4822 253 30021	13	000	FUSE SMELTPATR	0 0 0 0 0 000 0 13 0	1		1
4822 122 31414	13	000	CAP.CERAMIC -20+50% 10NF	0 0 0 000 0 13 0	1	C 0403	1
4822 122 31414	13	000	CAP.CERAMIC -20+50% 10NF	0 0 0 000 0 13 0	1	C 0404	1
4822 122 31414	13	000	CAP.CERAMIC -20+50% 10NF	0 0 0 000 0 13 0	1	C 0405	1
4822 122 31414	13	000	CAP.CERAMIC -20+50% 10NF	0 0 0 000 0 13 0	1	C 0406	1
5322 124 21504	12	000	CAP.ELECTROLYT. -20+20% 4700UF	0 0 0 0 0 000 0 13 0	1	C 0407	1
4822 124 20722	13	000	CAP.ELECTROLYT. -10+50% 1UF	0 0 0 000 0 13 0	1	C 0408	1
4822 124 20722	13	000	CAP.ELECTROLYT. -10+50% 1UF	0 0 0 000 0 13 0	1	C 0409	1
5322 121 42114	12	000	CAP. 63V 10% 1UF	0 0 0 0 0 000 0 13 0	1	C 0410	1
4822 122 31414	13	000	CAP.CERAMIC -20+50% 10NF	0 0 0 000 0 13 0	1	C 0411	1
4822 124 20691	13	000	CAP.ELECTROLYT. -10+50% 150UF	0 0 0 000 0 13 0	1	C 0413	1
4822 122 30103	13	000	CAP.CERAMIC -20+80% 22NF	0 0 0 000 0 13 0	1	C 0414	1
5322 121 42114	12	000	CAP. 63V 10% 1UF	0 0 0 0 0 000 0 13 0	1	C 0415	1
4822 122 31316	13	000	CAP.CERAMIC 2% 100PF	0 0 0 000 0 13 0	1	C 0416	1
4822 121 41855	13	000	CAP. 63V 10% 220NF	0 0 0 0 0 000 0 13 0	1	C 0417	1
4822 253 30018	13	000	FUSE T 5X20 630MA	0 0 0 0 0 000 0 13 0	1	F 0402	1
4822 209 70672	12	000	INTEGR.CIRCUIT LM358N N.S	0 0 0 0 0 000 0 13 0	0	N 0401	1
4822 209 70672	12	000	INTEGR.CIRCUIT LM358N N.S	0 0 0 0 0 000 0 13 0	0	N 0402	1
5322 116 53314	13	000	RES.METAL FILM MRS25 1% 46K4	0 0 0 0 0 000 0 13 0	1	R 0401	1
5322 116 53514	13	000	RES.METAL FILM MRS25 1% 316E	0 0 0 0 0 000 0 13 0	1	R 0402	1
4822 116 52843	13	000	RES.METAL FILM MRS25 1% 1M	0 0 0 0 0 000 0 13 0	1	R 0403	1
4822 116 52998	13	000	RES.METAL FILM MRS25 1% 4E87	0 0 0 0 0 000 0 13 0	1	R 0404	1
4822 116 52998	13	000	RES.METAL FILM MRS25 1% 4E87	0 0 0 0 0 000 0 13 0	1	R 0405	1
5322 116 53557	13	000	RES.METAL FILM MRS25 1% 36K5	0 0 0 0 0 000 0 13 0	1	R 0406	1
4822 122 31414			Cap Ceramic -20+50% 10nF		1	C 418	1

SERVICECODE	FP	FR	DESCRIPTION	ART.SPECIFIC.										POS.NR	
			R	C	M	D	S	PER	MAG	UN	HIG	CUS	GEN		00
5322 116 53243	13	000	RES.METAL FILM						MRS25			1% 2K26		R 0407	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53126	13	000	RES.METAL FILM						MRS25			1% 100E		R 0408	1
			0	0	0	0	0	000	0	13		0	1		
4822 116 52973	13	000	RES.METAL FILM						MRS25			1% 100K		R 0409	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53579	13	000	RES.METAL FILM						MRS25			1% 6K49		R 0410	1
			0	0	0	0	0	000	0	13		0	1		
4822 116 53108	13	000	RES.METAL FILM						MRS25			1% 1K		R 0411	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53579	13	000	RES.METAL FILM						MRS25			1% 6K49		R 0412	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53333	13	000	RES.METAL FILM						MRS25			1% 4K87		R 0413	1
			0	0	0	0	0	000	0	13		0	1		
5322 101 14008	13	000	POTM.TRIMMER						MTP10			20% 2K2		R 0414	1
						0	0	0	000	0	13		0	1	
4822 116 53022	13	000	RES.METAL FILM						MRS25			1% 10K		R 0415	1
			0	0	0	0	0	000	0	13		0	1		
4822 116 53022	13	000	RES.METAL FILM						MRS25			1% 10K		R 0416	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53579	13	000	RES.METAL FILM						MRS25			1% 6K49		R 0417	1
			0	0	0	0	0	000	0	13		0	1		
4822 116 52973	13	000	RES.METAL FILM						MRS25			1% 100K		R 0418	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53326	13	000	RES.METAL FILM						MRS25			1% 22K6		R 0419	1
			0	0	0	0	0	000	0	13		0	1		
4822 116 53108	13	000	RES.METAL FILM						MRS25			1% 1K		R 0420	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53578	13	000	RES.METAL FILM						MRS25			1% 4K42		R 0421	1
			0	0	0	0	0	000	0	13		0	1		
4822 116 52973	13	000	RES.METAL FILM						MRS25			1% 100K		R 0422	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53326	13	000	RES.METAL FILM						MRS25			1% 22K6		R 0423	1
			0	0	0	0	0	000	0	13		0	1		
4822 116 52973	13	000	RES.METAL FILM						MRS25			1% 100K		R 0424	1
			0	0	0	0	0	000	0	13		0	1		
4822 116 53108	13	000	RES.METAL FILM						MRS25			1% 1K		R 0425	1
			0	0	0	0	0	000	0	13		0	1		
5322 116 53722	13	000	RES.METAL FILM						MRS25			1% 2E15		R 0426	1
			0	0	0	0	0	000	0	13		0	1		
5322 130 34973	13	000	DIODE						BYW56				PEL	V 0401	1
						0	0	0	000	0	13		0	1	
5322 130 34973	13	000	DIODE						BYW56				PEL	V 0402	1
						0	0	0	000	0	13		0	1	
5322 130 34973	13	000	DIODE						BYW56				PEL	V 0403	1
						0	0	0	000	0	13		0	1	
5322 130 34973	13	000	DIODE						BYW56				PEL	V 0404	1
						0	0	0	000	0	13		0	1	
4822 130 30613	13	000	DIODE						BAW62				PEL	V 0405	1
			0	0	0	0	0	0	000	0	13		0	1	
4822 130 34197	13	000	DIODE						BZX79-C12				PEL	V 0406	1
						0	0	0	000	0	13		0	1	
12 4822 130 32245			Diode						BYV-10-40					V 401/ V 404	4

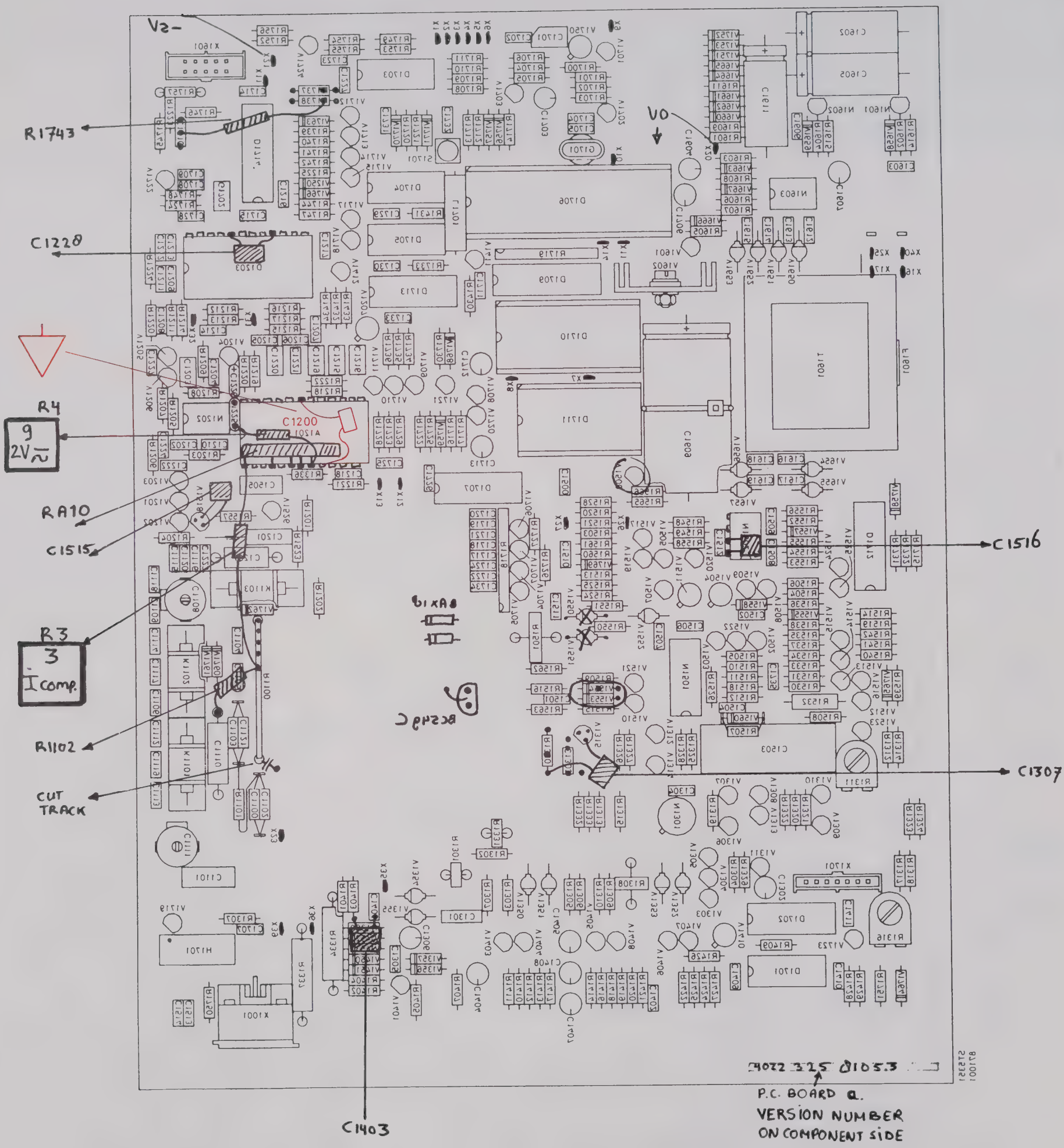
SERVICECODE	FP	FR	DESCRIPTION	ART.SPECIFIC.								POS.NR	
				R	C	M	D	S	PER	MAG	UN	HIG	CUS	GEN		00
4822 130 34121	13	000	DIODE							BAX18			PEL		V 0407	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 34121	13	000	DIODE							BAX18			PEL		V 0408	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0409	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0410	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0411	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0412	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0413	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0414	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0415	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0416	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0417	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0418	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 44568	13	000	TRANSISTOR							BC557B			PEL		V 0419	1
				0	0	0	0	0	000	0	13		0	1		
5322 130 44647	13	000	TRANSISTOR							BC368			PEL		V 0420	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 44568	13	000	TRANSISTOR							BC557B			PEL		V 0421	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 40823	13	000	TRANSISTOR							BD139			PEL		V 0422	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 40959	13	000	TRANSISTOR							BC547B			PEL		V 0423	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 40959	13	000	TRANSISTOR							BC547B			PEL		V 0424	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 40959	13	000	TRANSISTOR							BC547B			PEL		V 0425	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 40823	13	000	TRANSISTOR							BD139			PEL		V 0426	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 44568	13	000	TRANSISTOR							BC557B			PEL		V 0427	1
				0	0	0	0	0	000	0	13		0	1		
5322 130 34973	13	000	DIODE							BYW56			PEL		V 0428	1
				0	0	0	0	0	000	0	13		0	1		
5322 130 34973	13	000	DIODE							BYW56			PEL		V 0429	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0430	1
				0	0	0	0	0	000	0	13		0	1		
4822 130 30613	13	000	DIODE							BAW62			PEL		V 0431	1
				0	0	0	0	0	000	0	13		0	1		
5322 265 40642	12	000	CONNECTOR							P RECHT QF50					X 0401	1
				0	0	0	0	0	000	0	13		0	0		
13 4822 130 31983			Diode							BAT85					V 0432	1

X1 = SCLB	X11 = ALE	X21 = -5 V	X31 = R1 ADC	X41 = -
X2 = EDGE/CAL	X12 = MOTOR RED	X22 = MAINS	X32 = R1 ADC	X42 = MAINS
X3 = BSNS	X13 = MOTOR BLUE	X23 = HI BUS	X33 = -	
X4 = SCLA	X14 = A15	X24 = -	X34 = MAINS	
X5 = SDAB	X15 = MAINS	X25 = MAINS	X35 = A-fuse	
X6 = $\overline{\text{SDAA}}$	X16 = MAINS	X26 = -	X36 = A-fuse	
X7 = $\overline{\text{PSEN}}$	X17 = MAINS	X27 = R2 Vp	X37 = -	
X8 = A14	X18 = MAINS	X28 = R2 Vp	X38 = MAINS	
X9 = RAM BAT-	X19 = MAINS	X29 = -	X39 = A-socket	
X10 = RAM BAT+	X20 = 0 V	X30 = -	X40 = MAINS	



N1 P.C. BOARD A
COMPONENT SIDE

1, 2, 4, 8, 14, 50

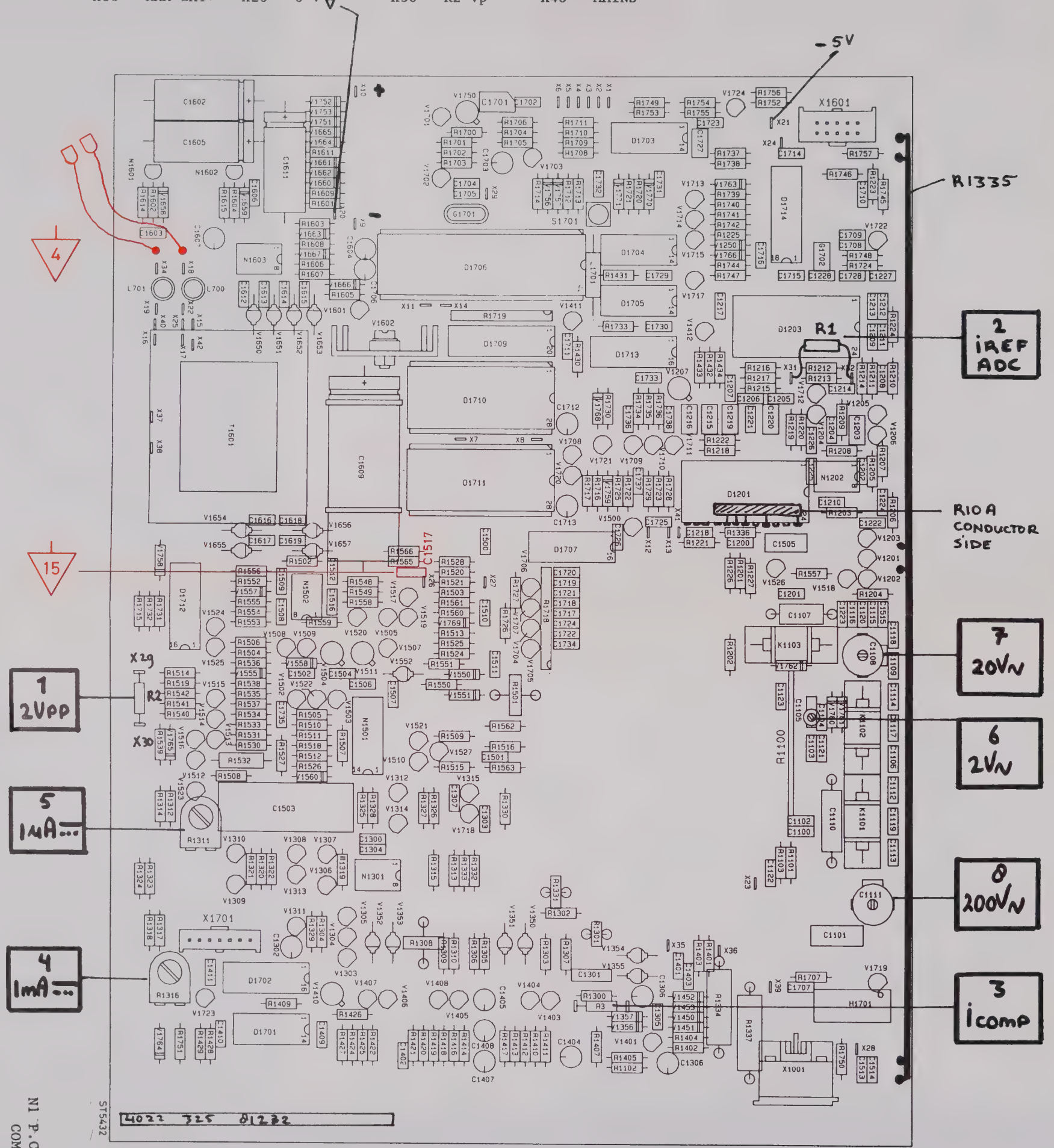


= ADJUSTMENT + NUMBER

= ADDITIONAL COMPONENT

N1 P.C. BOARD A.
CONDUCTOR SIDE

X1 = SCLB	X11 = ALE	X21 = -5 V	X31 = R1 ADC	X41 = -
X2 = EDGE/CAL	X12 = MOTOR RED	X22 = MAINS	X32 = R1 ADC	X42 = MAINS
X3 = BSNS	X13 = MOTOR BLUE	X23 = MAINS	X33 = -	X43 = R3 I comp.
X4 = SCLA	X14 = A15	X24 = -	X34 = MAINS	X44 = R3 I comp.
X5 = SCLB	X15 = MAINS	X25 = MAINS	X35 = A-fuse	
X6 = $\overline{\text{SDAA}}$	X16 = MAINS	X26 = -	X36 = A-fuse	
X7 = $\overline{\text{PSEN}}$	X17 = MAINS	X27 = -	X37 = -	
X8 = A14	X18 = MAINS	X28 = -	X38 = MAINS	
X9 = RAM BAT-	X19 = MAINS	X29 = R2 Vp	X39 = A-socket	
X10 = RAM BAT+	X20 = 0 V	X30 = R2 Vp	X40 = MAINS	



PC BOARD VERSION NUMBER

= ADJUSTMENT AND NUMBER

N1 P.C. BOARD B.
COMPONENT SIDE

4, 15

SHUNTS

2M7

5 1µADC

A-FUNCTION

ATTENUATORS

P.C. BOARD b

*R1100A÷E = NETWORK QM551

6 2VAC

7 20VAC

8 200VAC

3 ICOMP

4 1mADC

133

P.C BOARD b

2 CHARGE

6

1 2Vpp

14

INVERTOR

BUFFER

DISCHARGE

C1517 100p

6

1 2Vpp

15

5

CURRENT SOURCE

20k5

CHARGING CAPACITOR

1

2000V

1, 2, 5, 6, 14, 15

A

N1 ANALOG A

ST5345 880304

NI ANALOG B

B

5137D
880304

7, 10, 11,18

9-16

NI DIGITAL C

C

DIGITAL

KEYBOARD

FUNCTION DECODING

ADDRESS LATCH

ROM

RAM

Ap

A SOCKET

PIN NUMBER

IC	−5V	0VCC	
D1703	7	14	
D1704	7	14	
D1705	7	14	
D1706	20		40
D1707	8	16	
D1709	10		20
D1710	14		28
D1711	12		24

BAW 62

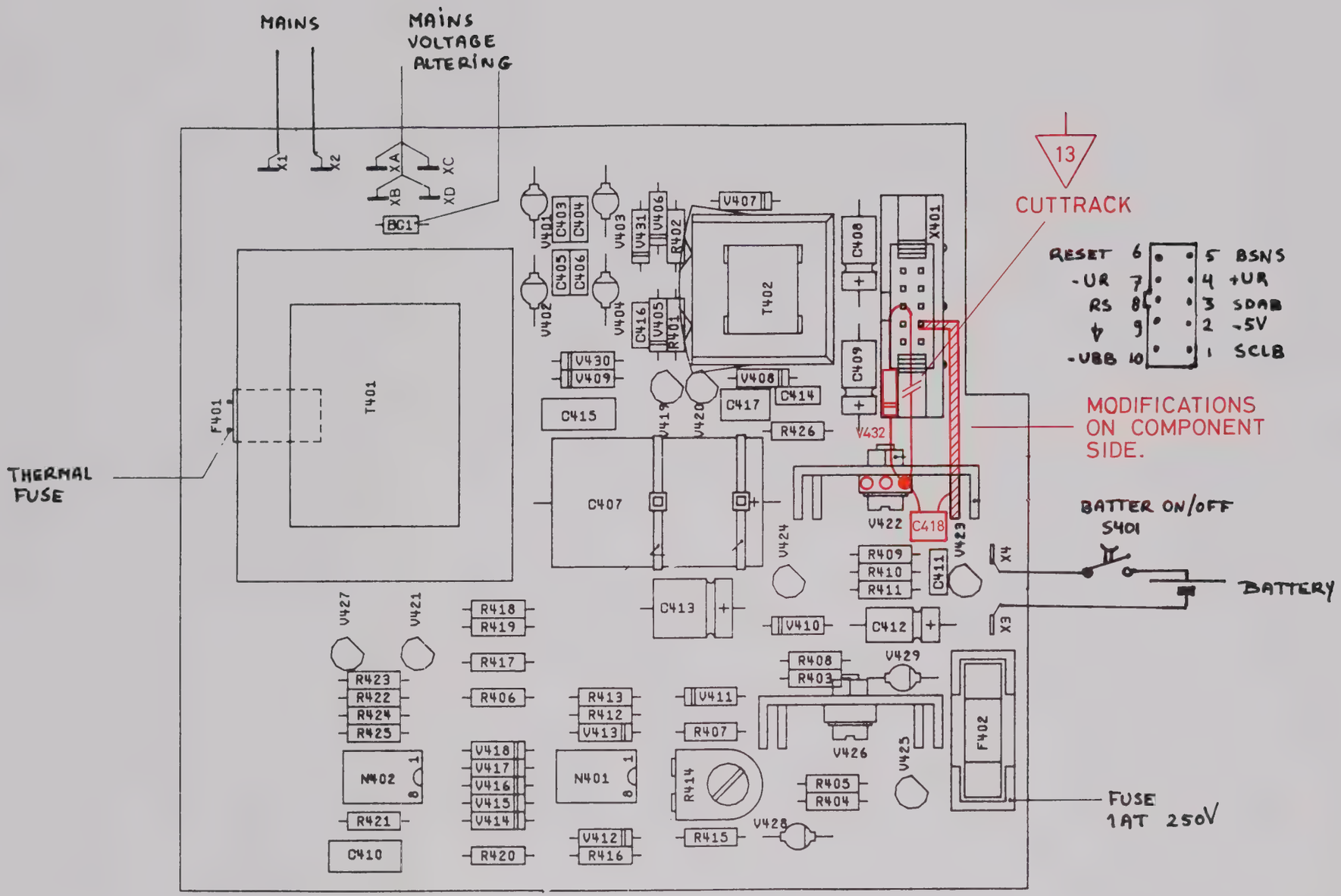
BAW 62

16

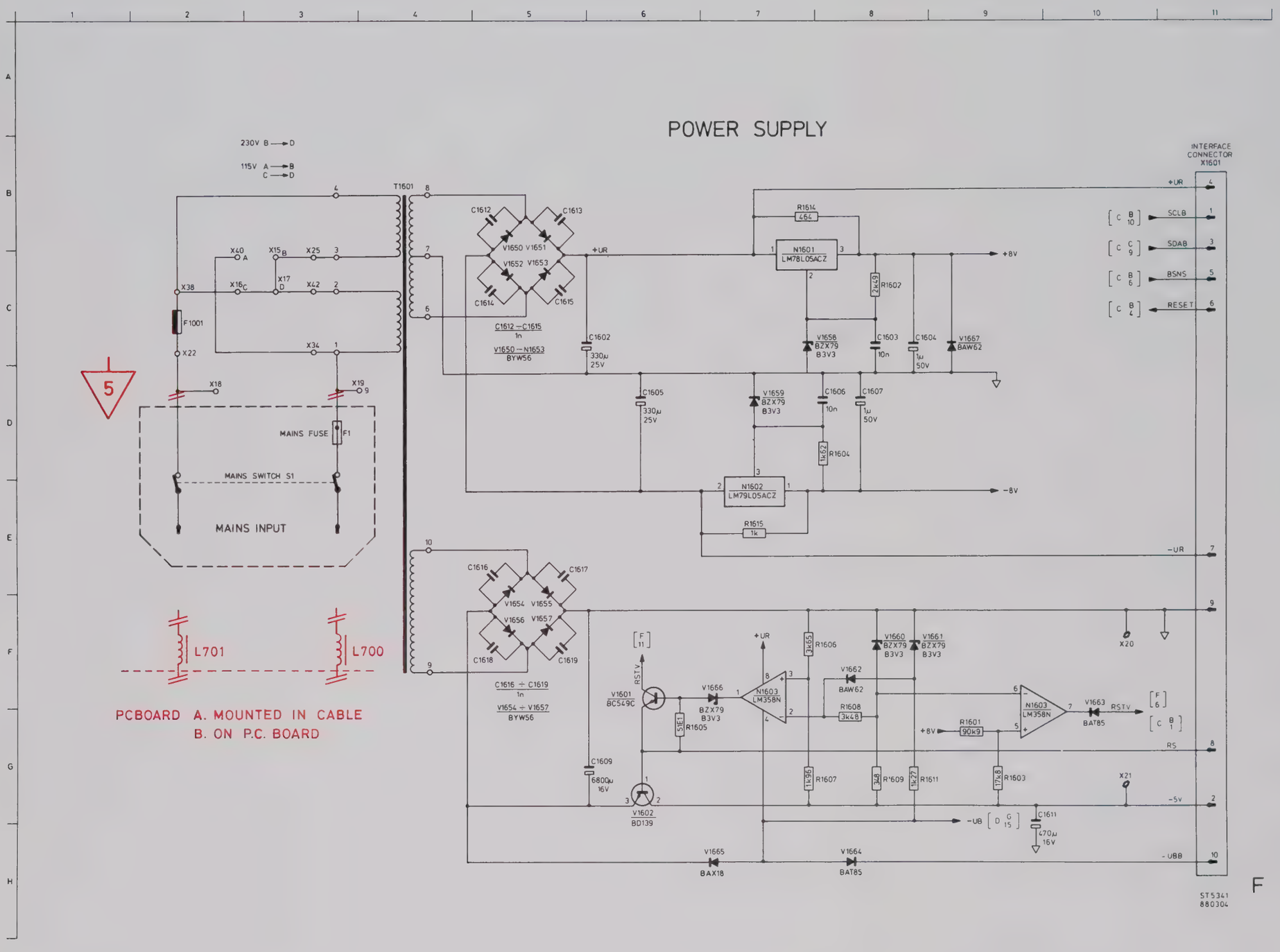
9

9, 16

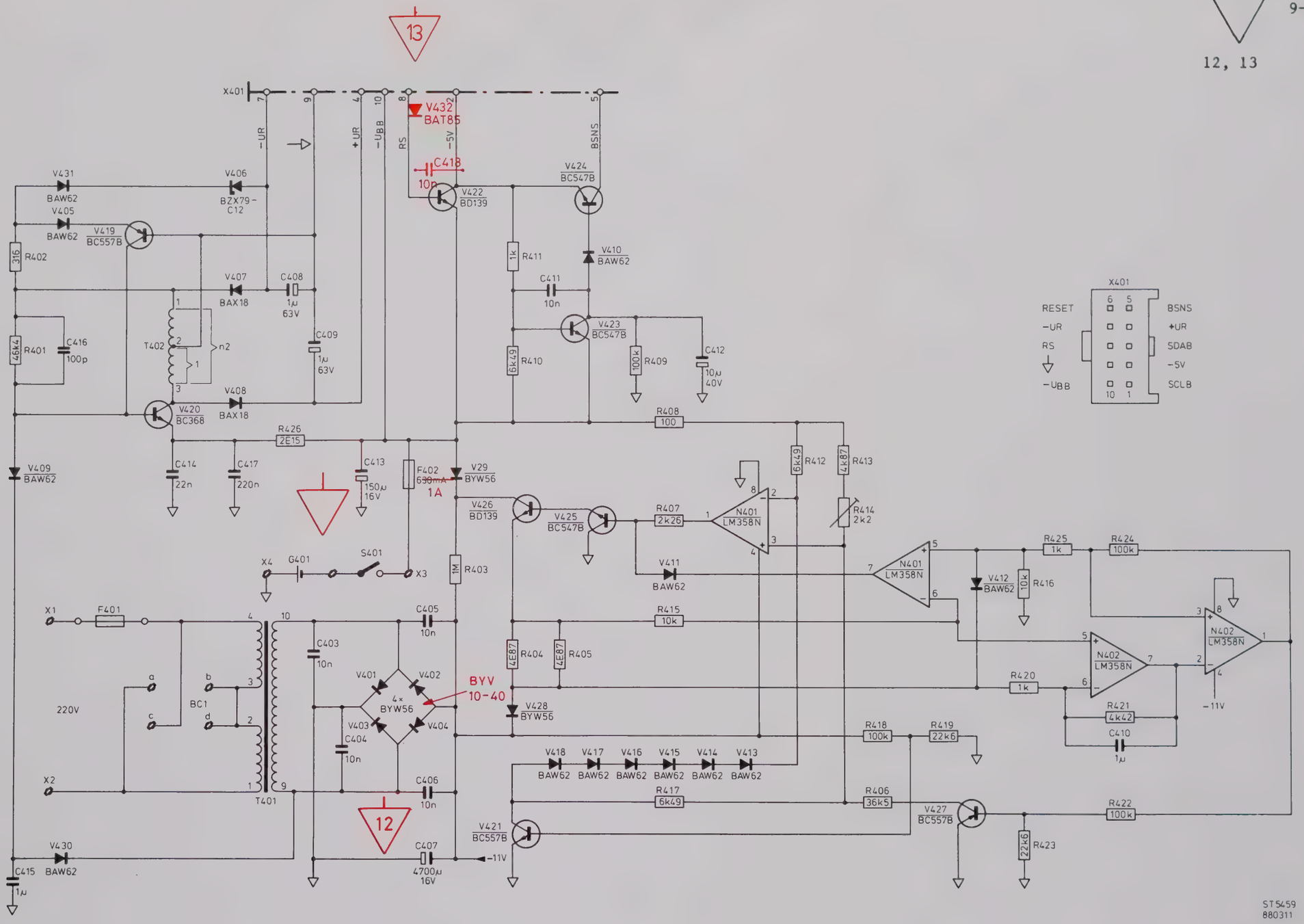
19



N4 BATTERY VERSION PM2525/21



POWER SUPPLY F



N4 BATTERY P.C. BOARD PM2525/21

PHILIPS

Service Information

Advanced Automation Systems
Audio-communications
Broadcast Equipment
Electronic Security & Recording Systems
Industrial Automation
Scientific & Analytical Equipment
Test and Measurement

Industrial & Electro-acoustic Systems Division

880429 PM2525 SME136

Concerns : Software version S07
Already issued : --

With software version S07 a manually operated high measuring-speed has been added for the V⎓ function (Speed 3).
This speed offers fast measurements in the dc voltage measurements function.

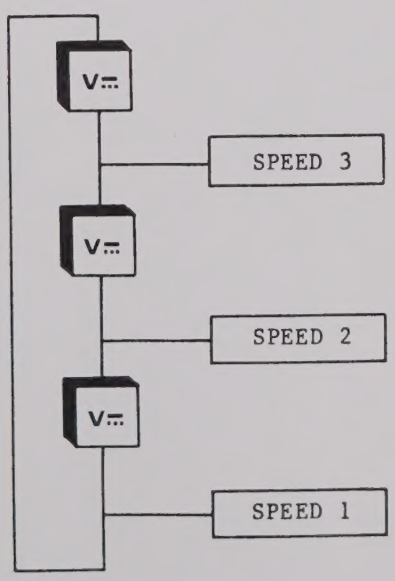
The table below shows the possible measuring speeds with additional information.

SPEED	RESOLUTION	DIGITS	RESPONSE TIME*
LOW SPEED 1	HIGH	6	5 s.
NORMAL SPEED 2	NORMAL	5	0.8 s.
HIGH SPEED 3	LOW	4	0.2 s.

* Without ranging

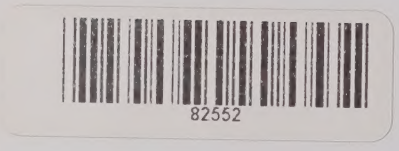
HOW TO OPERATE

Press pushbutton



Remark: The last selected speed stays valid after function change or power-off.

4822 872 38319
PRINTED IN THE NETHERLANDS


82552